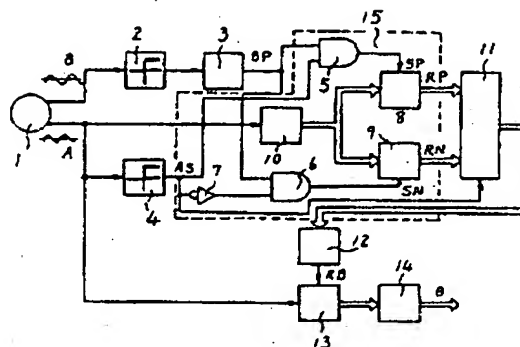


THE UNIVERSITY OF CHICAGO

TITLE : PHASE DETECTOR



**CONSTITUTION:** The A phase and B phase sine wave signals of the frequencies proportional to rotations and the phases varying by  $90^\circ$  are outputted from the encoder 1 and are processed by a comparator 2 and a pulse generating circuit 3. A pulse is outputted from the circuit 3 and is supplied to AND gates 5, 6 of a peak value holding circuit 15 at the point of the time when the B phase signal is zero. The signal AS of which the A phase attains an H at the just time from a comparator 4 and the signal AS via an inverter 7 are supplied to the gates 5, 6, respectively. The positive and negative peak values through an A/D converter 10 of the A phase are held in respective registers 8, 9 controlled by the gates 5, 6. The phase angle is exactly detected by the A phase signal applied to an A/D converter 13 with the peak output past a selector circuit 11 and a D/A converter 12 as a reference value via a memory 14 which stores an inverse sine wave function table even if the encoder output voltage is fluctuated by temp., source voltage, deterioration with age, rotating ripple, etc.

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